

ATD-2 Integrated Arrival/ Departure/Surface (IADS) System Specification - Phase 2

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Purpose

This document contains the system requirements specifications and requirements verification matrix for the core capabilities developed in ATD-2 Phase 2.









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1 RTC User Interface & Capabilities











Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	The RTC shall allow the Ramp Controllers to update emergency status for each individual flight: 1. Mechanical Emergency 2. Medical Emergency	UI: Flight Strip Flight Management	4.0	 ATDI-4239 - HF refinements to Medical and Emergency CLOSED  ATDI-3630 - Flag Emergency Flight via right mouse menu CLOSED	D
	The RTC shall indicate super weight class aircraft category for each applicable flight.	UI: Flight Strip Aircraft Management	4.0	 ATDI-4181 - Add indication for Super weight class category CLOSED	T
	The RTC shall implement FAA and RECAT aircraft types.	Aircraft Management	4.0	 ATDI-3790 - Update adaptation library to read aircraft types file with two weight class definitions CLOSED	D
DFW	The RTC shall display FAA transition spots.	UI: Map	4.3	 ATDI-4730 - RTC: Add a map option to display FAA spots CLOSED	D
	The RTC shall display Arrival Departure Window (ADW).	UI: Map Surface Modeling	5.1	 ATDI-5286 - DFW - Adapt ADW CLOSED	D
	The RTC shall display Airline provided Off Block Time/LOBT for each flight.	UI: Flight Menu RTC Interface with SMP	4.0	 ATDI-4180 - RTC: Add L-Time to the Flight Menu CLOSED	D
DFW	The RTC shall display drop points (a.k.a "hold points") at their respective locations on the ramp alleys.	UI: Map Surface Modeling	4.3	 ATDI-4925 - RTC: Draw DFW's drop points on the map CLOSED  ATDI-4723 - DFW - Add drop points to RTC map CLOSED	D, I





Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
DFW	The RTC shall allow the Ramp Controllers to indicate pushback directions and designated drop points/hold points for flights at gates.	UI: Flight Strip Surface Modeling	4.3	+ ATDI-4724 - DFW - update pushback procedures (tail direction label) CLOSED + ATDI-4215 - DFW-RTC: Input and display push direction on RTC CLOSED	D, I
DFW	The RTC shall provide the Ramp Controllers the capability to hand off each flight to another sector owner.	UI: Flight Strip Surface Modeling	4.0	- ATDI-4145 - RTC: For DFW, APREQ doesn't flash & RC ownership on flight strip is only G or T CLOSED	D
DFW	The RTC shall automatically detect and indicate each flight's airport surface sector ownership based on the flight's tracking location on the airport surface: 1. Ramp area 2. AMA area	UI: Flight Strip Surface Modeling	4.0	- ATDI-4145 - RTC: For DFW, APREQ doesn't flash & RC ownership on flight strip is only G or T CLOSED	D
	The RTC shall automatically move an arrival flight to its assigned gate if: 1. flight track location is within ramp and has gone stale for N seconds (N = 120) 2. AND flight is not manually moved to hardstand areas or on hold by ramp controllers	UI: Flight Strip Surface Modeling	4.2	- ATDI-4270 - Disable auto move-to-gate if the flight is on hold or assigned to hardstand CLOSED	D
	The RTC shall indicate to the Ramp Managers/RMTC when there is a proposed Strategic Metering Program/SMP.	UI: Toolbar RTC Interface with SMP	4.0	- ATDI-4134 - RMTC/STBO client show when there is a proposed SMP CLOSED - ATDI-4585 - Remove Gear Icon from RTC CLOSED	D, T
	The RTC shall provide notification when there is a status update to SMP.	UI: Notification table RTC Interface with SMP	4.0	- ATDI-4196 - Add notifications for SMP updates CLOSED	I

Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	The RTC shall provide a timer alert for a departure flight to meet its TMAAT during metering when the flight is repositioned into the hardstand areas by the Ramp controllers.	UI: Map RTC Interface with SMP, Surface Modeling	4.0	 ATDI-2927 - RTC: Add hardstand timers for untracked aircraft CLOSED	D
	The RTC shall provide a timer alert for a departure flight to meet its TMAAT during metering when the flight's tracking location is detected to be within the hardstand areas.	UI: Map RTC Interface with SMP, Surface Modeling	4.0	 ATDI-2927 - RTC: Add hardstand timers for untracked aircraft CLOSED	D
	The RTC shall update its display of an arrival flight with no next flight in line of flight to an aircraft with no associated flight N minutes after the flight has arrived at its parking gate. (N = 10)	UI: Map Aircraft management	4.0	 ATDI-3236 - RTC - Add ability to create aircraft icons CLOSED  ATDI-4426 - RTC: Expired Arrival w/o next flight in LOF does not turn into a grey diamond CLOSED	D
	The RTC shall update its display of an aircraft to a flight when it has a flight associated with it.	UI: Map Aircraft management, Flight management	4.0	 ATDI-3236 - RTC - Add ability to create aircraft icons CLOSED	D
	The RTC shall provide ramp controllers the ability to create an aircraft having no current flight associated with it.	UI: Map Aircraft management	4.0	 ATDI-3236 - RTC - Add ability to create aircraft icons CLOSED	D
	The RTC shall provide ramp controllers the ability to remove an existing aircraft having no current flight associated with it for the following reasons: 1. the aircraft displayed in the system does not exist at the airport in reality	UI: Map Aircraft management	4.1	 ATDI-4303 - RTC: Aircraft fixes continued CLOSED	D
	The RTC shall provide ramp controllers the ability to reposition an existing aircraft having no current flight associated with it	UI: Map Aircraft management	4.1	 ATDI-4303 - RTC: Aircraft fixes continued CLOSED	D











Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	<p>The RTC shall allow for the capability to set the default gate conflict threshold to display potential gate conflicts.</p> <p>for DFW: N = 0 OR as soon as an arrival lands; for CLT: N = 10 min before an arrival lands.</p>	UI: Map RTC Interface with STBO	4.3	 ATDI-4719 - RTC: Set Gate Conflict threshold to 0 for DFW for all positions CLOSED	D
	The RTC shall indicate to the ramp controllers potential gate conflicts between an arrival flight and an aircraft parked at gate.	UI: Map RTC Interface with STBO	4.1	 ATDI-4410 - Gate conflict updates to account for aircraft management CLOSED  ATDI-4419 - RTC: Display gate conflict caused by neighboring aircraft CLOSED	D
	The RTC shall indicate potential gate conflicts between a heavy aircraft and a flight or another aircraft assigned to a gate adjacent to its gate.	UI: Map RTC Interface with STBO	5.0	 ATDI-5108 - DFW Gate updates CLOSED	D
	The RTC shall display tethering between gates and their assigned flights within or outside of current display.	UI: Map Gate Management	4.5	 ATDI-5126 - RTC gate tether doesn't work for flights not in viewable area CLOSED	D
	The RTC shall allow RTC users to modify, save, and retrieve saved profile settings.	UI: Map RTC User settings & preferences	4.1	 ATDI-4269 - RTC: New default view for user profile separate from the preset buttons CLOSED	D
	<p>The RTC shall allow the Ramp Managers to update parking gate status:</p> <ol style="list-style-type: none"> 1. Close gates 2. Reopen gates 	UI: Map Gate management	4.2	 ATDI-4219 - RTC: Mark gates as closed CLOSED	D
	The RTC shall provide notification when a gate status is updated	UI: Notification panel Gate Management	4.3	 ATDI-4472 - Add notification when a gate is closed / reopened CLOSED	I







Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	The RTC shall display a ping upon any matching target on its current display in response to the user's search input for: flight, tail, destination airport, arrival/departure fix.	UI: Map Search service	4.2	+ATDI-4528 - RTC: Refinements to search function CLOSED	D
	The RTC shall provide snap-to-airborne-arrival response only after the user indicates completion of search input for an airborne arrival flight.	UI: Map Search service	4.2	+ATDI-4528 - RTC: Refinements to search function CLOSED	D
	The RTC shall provide a dialog response only after the user indicates completion of search input for a departure or landed-arrival flight not on current display.	UI: Map Search service	4.2	+ATDI-4528 - RTC: Refinements to search function CLOSED	D
	The RTC shall display Flight IDs, parking gates, arrival runways, and est. ON time in its Arrival Summary display.	UI: Map	4.3	+ATDI-4616 - Add runway column to Arrival Count list on RTC CLOSED	I
DFW	The RTC shall allow users the capability to filter Departures and Arrivals display by ramp towers in its Arrival and Departures Summary display.	UI: Map	4.2	+ATDI-4214 - DFW-RTC: Filtering Arrival and Departure lists on RTC CLOSED	D
CLT	The RTC shall allow ramp controllers to update a departure flight's runway due to operational necessity.	UI: Map	4.3	+ATDI-5041 - RTC: DFW should not be allowed to change runways CLOSED +ATDI-4782 - opNec marking should be removed for DFW CLOSED	D, I
	The RTC shall allow users the option to display sector frequencies for each ramp areas on the airport surface.	UI: Map	4.3	+ATDI-4201 - Add DFW frequencies on RTC map CLOSED	I
	The RTC shall allow users to put an aircraft in the Air Start state after pushback.	UI: Map	4.3	+ATDI-4589 - RTC: Air start option after pushback CLOSED	D








Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	<p>The RTC shall set a flight with priority status using the following criteria:</p> <ol style="list-style-type: none"> 1. Ramp controller manually sets a flight to be priority flight - highest precedence 2. OR Heavy flight or B75X at the terminal area (as opposed to cargo area) 	UI: Map	4.3 4.6	<p> ATDI-4672 - Set Priority on "Flagship" flights CLOSED</p> <p> ATDI-5261 - Reevaluate priority flag when flight data is updated CLOSED</p>	D, I
CLT	<p>The RTC shall hide the following flight information from non-FAA users:</p> <ol style="list-style-type: none"> 1. Sensitive flights 2. Block at industry 	UI: Map RTC Interface with STBO	4.2.3 4.7	<p> ATDI-4806 - Setup sensitive data filtering on all systems CLOSED</p> <p> ATDI-4864 - Add CLT rungui.RampManager CLOSED</p> <p> ATDI-5616 - Fuser prevents block at industry flag from being set on existing flights CLOSED</p>	D
	The RTC shall allow users to refresh its connection to the STBO.	UI: Map RTC Interface with STBO	4.3	 ATDI-4217 - RTC Refresh option CLOSED	D
	The RTC shall set the default metering hold advisory to FALSE.	UI: Map RTC Interface with SMP	4.3	 ATDI-4675 - Modify default metering hold advisory to be false instead of pending CLOSED	D
DFW	The RTC shall allow for the option to display TOBT-or TMAAT advisories while a SMP is active.	UI: Map RTC Interface with SMP	4.3 4.5 4.7	<p> ATDI-4614 - Add TMAAT advisory to RTC CLOSED</p> <p> ATDI-4905 - TMAAT advisory refinement CLOSED</p> <p> ATDI-5128 - Remove combined TOBT+TMAAT advisory CLOSED</p>	D, I









Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
CLT	The RTC shall allow for the option to display advisories for surface metering candidates based on user-specified difference between TOBT and UOBT.	UI: Map RTC Interface w/ SMP	4.6	 ATDI-5371 - Highlight flights on RTC that are candidates for leveraging surface metering CLOSED	D
	The RTC shall allow for the option to toggle advisory display between: 1. Uncertain flights (#hashtag); Planning flights with frozen/unfrozen advisories 2. Uncertain flight AND Planning flights with frozen/unfrozen advisories	UI: Map RTC Interface w/ SMP	4.4	 ATDI-4985 - Option to replace hashtag with unfrozen/frozen advisory CLOSED	I, T
	The RTC shall only display frozen advisories for an uncertain flight moved to READY state when the chosen advisory display option is #1: 1. Uncertain flights (#hashtag); Planning flights with frozen/unfrozen advisories	UI: Map RTC Interface w/ SMP	4.4	 ATDI-4985 - Option to replace hashtag with unfrozen/frozen advisory CLOSED	I, T
	The RTC shall allow the ramp controllers to update a flight's spot assignment when the flight has not yet reached the spot location.	UI: Map Surface Modeling	4.4	 ATDI-4970 - Improve User Spot Assignment Entries on RTC CLOSED	D











2 STBO User Interface & Capabilities









Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	<p>The STBO shall allow ATC controllers to update emergency status for a flight:</p> <ol style="list-style-type: none"> 1. Mechanical Emergency 2. Medical Emergency 	<p>UI: Timeline, Map, Table</p> <p>Flight Management</p>	4.0	<p> ATDI-4239 - HF refinements to Medical and Emergency CLOSED</p> <p> ATDI-3630 - Flag Emergency Flight via right mouse menu CLOSED</p>	D
	The STBO shall indicate super weight class aircraft category for each applicable flight.	<p>UI: Toolbar, Map</p> <p>Aircraft Management</p>	4.0	<p> ATDI-4181 - Add indication for Super weight class category CLOSED</p>	T
	The STBO shall implement FAA and RECAT aircraft types.	Aircraft Management	4.0 4.4	<p> ATDI-3790 - Update adaptation library to read aircraft types file with two weight class definitions CLOSED</p> <p> ATDI-5171 - update STBO properties to run DFW/DAL with RECAT CLOSED</p> <p> ATDI-5158 - Add DFW recat separation tables CLOSED</p> <p> ATDI-5147 - update DFW/DAL separations to handle recat wake turbulence values CLOSED</p>	D, I
	The STBO shall implement IATA and ICAO aircraft types	Aircraft Management	5.1	<p> ATDI-5028 - Update aircraft_types from lists of IATA codes CLOSED</p>	I
	The STBO shall implement Arrival Departure Window (ADW) separation.	Surface Modeling	4.4	<p> ATDI-5159 - Add DFW ADW window separations CLOSED</p>	D
	The STBO shall display Arrival Departure Window (ADW)	<p>UI: Map</p> <p>Surface Modeling</p>	5.1	<p> ATDI-5286 - DFW - Adapt ADW CLOSED</p>	D


Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	The STBO shall provide GA flight categorization capability.	Flight Management	4.1 4.2	 ATDI-4416 - DFW - Set GA attribute in gates file CLOSED  ATDI-4245 - Search for GA not capturing all GAs CLOSED	I, T
DFW	The STBO shall display ramp holding pads.	UI: Map	4.3	 ATDI-4557 - DFW - adapt hold pads CLOSED	D
CLT	The STBO shall allow for flight pre-scheduling capability. Flights eligible for pre-scheduling meet the following criteria: <ol style="list-style-type: none"> 1. The flight is a departure 2. The flight is arriving into airports available for pre-scheduling (i.e. ATL) 3. The flight is not considered a GA flight 4. The flight has a flight state greater than or equal to SCHEDULED and less than OFF 5. The flight is constrained by an APREQ TMI 6. The flight is not subjected to a Ground Stop 7. The flight can be negotiated electronically 8. The flight does not have a scheduled release time 9. The flight is not in the middle of release negotiation 10. The flight has either an EOBT or UOBT <ol style="list-style-type: none"> a. If the flight has an EOBT then that time is within N minutes of the current time b. If the flight does not have an EOBT then the UOBT is within N minutes of the current time 	UI: Timeline, map, table APREQ Management	4.0 4.3 4.5	 ATDI-4176 - Setup apreq pre-schedule filters in AMS CLOSED  ATDI-4590 - Prevent release prescheduling for ground stop flights CLOSED  ATDI-4890 - Add ORD to apreq pre-scheduling CLOSED	D

Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	The STBO shall indicate the source who updates TMI information: <ol style="list-style-type: none"> 1. User 2. TFM 3. OIS 	UI: Toolbar TMI management	4.1	 ATDI-4335 - Client: Source did not change to User when editing an OIS sourced APREQ schedule CLOSED	D
	The STBO shall allow the ATCT TMC to modify multiple TMIs with respect to the following capabilities: <ol style="list-style-type: none"> 1. Remove multiple TMIs at once 2. View constraints for multiple TMIs at once 	UI: Toolbar TMI Management	4.1	 ATDI-4267 - Client: Capability to remove multiple TMI restrictions simultaneously CLOSED	D
	The STBO shall allow ATC users to set "Airport" as a constraint when entering TMIs.	UI: Toolbar TMI Management	5.2	 ATDI-5473 - STBO - TM Actions - Add "Airport" constraint CLOSED	D
	The STBO shall indicate when there is a proposed Strategic Metering Program/SMP.	UI: Toolbar STBO interface with SMP	4.0	 ATDI-4134 - RMTC/STBO client show when there is a proposed SMP CLOSED	T
	The STBO shall provide notification when there is a status update to SMP.	UI: Notification table STBO interface with SMP	4.0	 ATDI-4196 - Add notifications for SMP updates CLOSED	I
	The STBO shall detect runway configuration change when traffic flow diverts by N degrees in the opposite direction ($N \geq 120$ deg).	Surface Modeling		 ATDI-5016 - Reduce opposite direction ops angle used in auto-detect config logic CLOSED	I
	The STBO shall alert the ATCT TMC of automatic runway configuration changes.	UI: Notification dialog STBO interface with Surface Modeling	4.0	 ATDI-4006 - Client: Display notification dialog if the runway configuration changes automatically CLOSED	I









Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
				 ATDI-4703 - Disable auto config change dialog for DFW CLOSED	
CLT	The STBO shall allow the ATCT TMC to accept or modify automatic runway configuration changes.	UI: Notification dialog Surface Modeling	4.0 4.1 4.3	 ATDI-4006 - Client: Display notification dialog if the runway configuration changes automatically CLOSED  ATDI-4406 - Client: Don't show config change dialog in Observer mode CLOSED  ATDI-4703 - Disable auto config change dialog for DFW CLOSED	I, T
	The STBO shall allow the ATC users to save customized STBO component setting independently from their customized STBO setting (aka user profile): 1. STBO Flight Table 2. STBO Timeline	UI: Flight Table, Timeline User settings & preferences	4.0	 ATDI-2686 - Client: Save a flight table or timeline config independent of scf CLOSED	D
	The STBO shall compute new trajectories for individual departure flights affected by closed taxiways.	UI: map Surface Modeling	4.0	 ATDI-1188 - When a taxiway is closed, find another trajectory for a flight CLOSED	D
	The STBO shall allow ATC controllers to modify open/close status for the following airport surface areas: 1. the ramp area 2. the taxiways 3. the runways	UI: map Surface Modeling, TMI Service	4.0	 ATDI-3841 - Client: Re-enable the ability to close/open taxiways CLOSED	D
	The ATD-2 shall allow users to preset daily-scheduled restrictions: 1. Airport surface open/close status	UI: command console TMI Service	4.0	 ATDI-4024 - Persist link/taxiway/runway closures CLOSED	D, I

Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	2. TMI capabilities available on ATD-2				
	The STBO shall display range ring values in 4 cardinal directions: North, East, South, and West.	UI: Map Surface Modeling	4.1	 ATDI-4268 - Client: Show range ring distance labels at all 4 cardinal directions CLOSED	D
	The STBO shall display to the ATC users the departure fix or the departure procedure, mutually exclusive of each other.	UI: Map Surface Modeling	4.1 5.0	 ATDI-4203 - Overlapping Fix and Procedures on STBO Client Map CLOSED  ATDI-4727 - Track the procedure associated with a fix CLOSED	D, T
	The STBO shall determine potential gate conflicts between a flight and an aircraft parked at gate.	Gate conflict management	4.1	 ATDI-4410 - Gate conflict updates to account for aircraft management CLOSED	D
	The STBO shall indicate to the ATC users potential gate conflicts between a flight and an aircraft parked at gate.	UI: Map, Flight Table	4.1	 ATDI-4410 - Gate conflict updates to account for aircraft management CLOSED	D
	The STBO shall determine potential gate conflicts between a heavy aircraft and a flight or another aircraft assigned to a gate adjacent to its gate.	UI: Map, Flight Table Gate conflict management	5.0	 ATDI-5108 - DFW Gate updates CLOSED	D
	The STBO shall allow for the capability to configure pushback time buffer for gate conflict detection for flights that have entered pushback state.	Gate conflict management	4.4	 ATDI-5049 - Gate conflicts not flagged for late departures CLOSED  ATDI-4983 - Do not count flights in pushback status as gate conflicts for DFW CLOSED	D
	The STBO shall allow for the capability to configure gate conflict detection tolerance buffer in order to improve gate conflict detection jittering.	Gate conflict management	4.4	 ATDI-4984 - Add tolerance buffers to Gate Conflict detection CLOSED	I
	The STBO shall display long-on-board information for flights.	UI: Timeline	4.3	 ATDI-4726 - Add long-on-board icon to STBO Client timeline CLOSED	I

Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	The STBO shall provide the flight plan demand to the ATC users over a user-defined period of time.	UI: Timeline Flight plan demand service	4.1	 ATDI-4347 - Flight Plan Demand UI Improvements CLOSED	D
	The STBO shall allow the ATC users to preview and modify flight plan demand.	UI: Timeline Flight plan demand service	4.3	 ATDI-4572 - Client: Flight plan demand - add Preview option CLOSED	D
	The STBO shall cancel stale search inputs from users after N seconds of the search being stale.	UI: Toolbar, Flight table, Timeline, Search Service	4.1	 ATDI-4253 - Client: Redesign search timeout and cancellation CLOSED	D
	The STBO shall notify the ATC users of Ground Delay Programs.	UI: Notification Panel TMI service	4.1	 ATDI-4133 - Display GDP's in restriction list CLOSED	
CLT	The STBO shall hide the following flight information from non-FAA users: 1. Sensitive flights 2. Block at Industry	UI: Map, Timeline, Table Flight Data Processing Service	4.2.3 4.7	 ATDI-4806 - Setup sensitive data filtering on all systems CLOSED  ATDI-5616 - Fuser prevents block at industry flag from being set on existing flights CLOSED	D
	The STBO shall provide the capability to display departure flights' current delay at the runway.	UI: Timeline	4.4	 ATDI-5167 - Add truncated current-delay to the operational STBO's timeline configuration CLOSED	D
	The STBO shall disable the option for ATC users to set APREQ release time if the flight is under the following conditions: 1. Ground stop 2. OR Flight state = cancelled or suspended 3. OR Flights have no target off time	UI: Toolbar, Timeline, Flight Table	4.4	 ATDI-5063 - Client improper validation of release times when flight is in ground stop CLOSED	D

Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	The STBO shall include the option to display TRACON maps.	UI: Map Surface Modeling	4.6	 ATDI-5304 - 06/07/19 Updates for CLT TRACON video maps CLOSED	D

3 Surface Scheduling & Metering User Interface & Capabilities

Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	<p>The Surface SM Subsystem shall provide the option to set default values for SMP parameters:</p> <ol style="list-style-type: none"> 1. SMP Status (Active/Inactive) 2. Upper Threshold (minutes) 3. Target (minutes) 4. Lower Threshold (minutes) 5. Lead time (minutes) 6. Static Time Horizon (N minutes) (Currently default value: N = 15 minutes for CLT, N = 0 minutes for DFW) 7. Auto-affirm Proposed SMP (True/False) 	<p>UI: SMD SMP</p>	<p>4.3 4.6</p>	<p> ATDI-4729 - Add default metering parameters for DFW CLOSED</p> <p> ATDI-5053 - Update default static time horizon for CLT CLOSED</p> <p> ATDI-5379 - Change default Static Time Horizon to 15 minutes CLOSED</p>	D, I
	The Surface SM Subsystem shall allow the ATCT TMC to reject or accept a proposed SMP.	UI: SMD SMP	4.0	 ATDI-4134 - RMTC/STBO client show when there is a proposed SMP CLOSED	T
	The Surface SM Subsystem shall provide the option to auto-affirm proposed SMPs.	SMP	4.2	 ATDI-4517 - Add option to auto-affirm an SMP CLOSED	
	The Surface SM Subsystem shall allow the ATCT TMC to reject auto-affirmed SMPs.	UI: SMD SMP	4.2	 ATDI-4588 - Turn on Auto-Affirmation of SMPs CLOSED	D
	The Surface SM Subsystem shall set the status of an active SMP to REJECTED when the SMP is rejected N+ minutes before the end of the SMP.	UI: SMD SMP	4.2	 ATDI-4449 - Make active SMP completed upon user rejection CLOSED	D
	The Surface SM Subsystem shall set the status of an active SMP to COMPLETED when the SMP is rejected N minutes before the end of the SMP.	UI: SMD SMP	4.2	 ATDI-4449 - Make active SMP completed upon user rejection CLOSED	D



Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	The Surface SM Subsystem shall allow the ATCT TMC to update Static Time Horizon when SMP is active.	UI: SMD SMP	4.0	ATDI-3897 - Allow user to set Static Time Horizon in SMD CLOSED ATDI-3895 - Add Static Time Horizon to ScheduledMeteringMode object CLOSED	I, T
	The Surface SM Subsystem shall allow for the option to freeze SMP start times once the start times are within the static time horizon.	Tactical Scheduling Service	4.7 5.3	ATDI-5546 - Freeze SMP start time CLOSED	D
	The Surface SM Subsystem shall use flights in the PLANNING group to predict SMP.	Tactical Scheduling Service	4.1	ATDI-4334 - Exclude UNCERTAIN flights from triggering proposed SMP CLOSED	
	The Surface SM Subsystem shall subject all departure flights to SMP, except the following flight categories: <ol style="list-style-type: none"> 1. Cargo flights 2. Military flights 3. Exempt from metering 	SMP	4.1	ATDI-4376 - Remove automatic exemption of international flights CLOSED	D
	The Surface SM Subsystem shall use a Ration-By-Schedule/RBS algorithm while time-based metering is ON and SMP is ACTIVE AND AFFIRMED, which has an order of consideration by STOT, to schedule all departure flights in the PLANNING group, except the following: <ol style="list-style-type: none"> 1. Controlled flights (APREQ EDCT) with CTOT 2. Frozen flights 	Tactical Scheduling Service	4.2 4.4 5.0	ATDI-4512 - Options to set if pre-dmp queue full OOC class should use STOT for general flights. CLOSED ATDI-4372 - Tactical Scheduler Handle Case when Metering is ON and Queue is full CLOSED ATDI-4383 - Create a basic delay propagation for SurfaceSlotNetwork CLOSED ATDI-4287 - SurfaceSlotNetwork implement post DMP processing CLOSED ATDI-4607 - Tactical scheduler adaptation needed for DFW slot network algorithm CLOSED	A, D, I T

Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
				ATDI-4826 - TerminalSlotNetwork - Modify infrastructure for terminal slot network CLOSED ATDI-4840 - Order schedule priority type by priority for sorting CLOSED ATDI-5027 - Moving DFW Tactical Scheduler from Slot network to Strategic network for 4.4 and 5.0 CLOSED ATDI-5212 - Turn on the RBS schedule order for CLT in 4.4 CLOSED	
	The Surface SM Subsystem shall use a FCFS scheduling algorithm while time-based metering is ON and SMP is ACTIVE AND AFFIRMED to schedule the following departure flights: 1. Controlled Flights (APREQ EDCT) with CTOT (by CTOT - buffer) 2. Frozen flights (by the previous iteration of TOBT+transit time to runway) 3. Exempt flights (by UTOT) 4. Active flights (by UTOT; buffer to the trajectory added to derive UTOT for ramp taxi flights) 5. Uncertain flights (by UTOT + buffer) 6. GA uncertain flights (by UTOT + buffer)	Tactical Scheduling Service	4.0 4.2 4.2.3	ATDI-4188 - Schedule ramp and ama taxi in same group CLOSED ATDI-4468 - SurfaceSlotNetwork handle delay distribution CLOSED ATDI-4381 - APREQ and EDCT flights should always be sorted by UTOT' for post DMP schedule CLOSED ATDI-4372 - Tactical Scheduler Handle Case when Metering is ON and Queue is full CLOSED ATDI-4329 - Correct order of consideration grouping and sort time for SurfaceSlotNetwork CLOSED ATDI-4388 - Add processing for TMI flights in SurfaceSlotNetwork CLOSED ATDI-4383 - Create a basic delay propagation for SurfaceSlotNetwork CLOSED	D, I






Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
				ATDI-4385 - Order of Consideration classes handle Uncertain and GA flights CLOSED ATDI-4486 - Order of Consideration Handles Pushback Uncertain Flights CLOSED ATDI-4287 - SurfaceSlotNetwork implement post DMP processing CLOSED ATDI-4641 - Freeze Logic - Update freeze logic to use ETA message freeze data CLOSED ATDI-4873 - Taxi Departure Slot Algorithm - Strategic Slot Network class to handle taxi departure flights CLOSED	
	The Surface SM Subsystem shall adjust a departure flight's UTOT based on its grouping status: 1. Uncertain: $UTOT = UTOT + 5$ minutes 2. APREQ: $UTOT = UTOT + 1$ to 4 minutes	Tactical Scheduling Service	4.5 5.0	ATDI-5175 - Use ETA_ADJUSTED time as sortTime for tactical scheduler's 1st and 2nd passes CLOSED	I
	The Surface SM Subsystem shall freeze departure flights when: 1. Call-ready (for APREQ EDCT flights: only when they have A-time or E-time); 2. Manual freeze; 3. SMP static horizon freeze applies (N minutes to TOBT: freezes updates to the TOBT and TMAAT at current time plus N minutes) except for UNCERTAIN flights	Tactical Scheduling Service	4.2.1 4.3	ATDI-4654 - Apreq flight without a CTOT should not be frozen CLOSED ATDI-4989 - Unfreeze all uncertain flight except for manually frozen flights (also controlled frozen) CLOSED	D

Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	The Surface SM Subsystem shall only freeze UNCERTAIN flights when: <ol style="list-style-type: none"> 1. Call-Ready 2. Manually frozen and unfreeze these flights if they return to the UNCERTAIN state.	Tactical Scheduling Service	4.3	+ATDI-4989 - Unfreeze all uncertain flight except for manually frozen flights (also controlled frozen) CLOSED	D
	The Surface SM Subsystem shall allow for the option to toggle between: <ol style="list-style-type: none"> 1. Freezing calculation of TOBT and TMAF when conditions are met (freezing with the previous schedule), 2. OR performing one additional update of TOBT and TMAF after conditions are met (freezing with an additional schedule iteration). 	Tactical Scheduling Service	4.3	+ATDI-4988 - Add toggle for previous schedule freeze logic CLOSED +ATDI-4921 - Update freeze logic to add cases to freeze using previous existing metering times CLOSED	D
	The Surface SM Subsystem shall apply best out time used in freeze logic only if it uses freezing calculation of TOBT and TMAF with previous schedule iteration.	Tactical Scheduling Service	4.3	+ATDI-5022 - Enable best out times when freezing previous schedule CLOSED	D
	The Surface SM Subsystem shall exempt from metering the following departure flights: <ol style="list-style-type: none"> 1. APREQ flights without CTOT (configurable) 2. Emergency flights 	Tactical Scheduling Service	4.3 4.4	+ATDI-4673 - Options to allow Apreq flights without CTOT to be treated as exempt flights CLOSED +ATDI-5014 - Tactical Scheduler Handle Emergency Flight as Exempt Flights CLOSED	D
	The Surface SM Subsystem shall consider the following flights of equal priority for a slot in the runway: <ol style="list-style-type: none"> 1. Taxi flights with or without CTOT 2. Frozen and Exempt flights 	Tactical Scheduling Service	4.3	+ATDI-4974 - <i>StrategicSlotNetwork - All Taxi Flights, Frozen Flights, and Exempt Flights should have same priority to compete for a slot</i> CLOSED	D

Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
DFW	The Surface SM Subsystem shall prioritize taxi flights over gate flights.	Tactical Scheduling Service	4.4 4.5	+ ATDI-5139 - Strategic Slot Network comparators adds in delay buffers for gate flights CLOSED + ATDI-5302 - Scheduling taxi flight first before the none active flights when both exist in the queue full eligible list CLOSED	D, I
	The Surface SM Subsystem shall allow priority flights to swap with other flights subjected to the same SMP.	Tactical Scheduling Service	4.3	+ ATDI-4739 - Move priority processing after DMP processing in SurfaceSlotNetwork CLOSED	
	The Surface SM Subsystem shall use a FCFS scheduling algorithm while time-based metering is OFF or SMP is INACTIVE OR REJECTED, which has an order of consideration by UTOT, in order to: <ol style="list-style-type: none"> 1. Enable queue size awareness 2. Advise pushback time for controlled flight 	Tactical Scheduling Service	4.2	🔗 ATDI-4157 - ATD-2 Upgrading the STBO's Scheduler to fully support ATD-2 phase-2 OPEN 📌 ATDI-4385 - Order of Consideration classes handle Uncertain and GA flights CLOSED	D
	The Surface SM Subsystem shall allow for the option to reschedule when an uncertain flight is updated to ready state.	Tactical Scheduling Service	4.3	+ ATDI-4931 - Option to reschedule when user click on uncertain aircraft hashtag on RTC CLOSED	D, I
	The Surface SM Subsystem shall track runway usage from departed departure or landed arrival flights in its scheduling process.	Tactical Scheduling Service	4.2.3	+ ATDI-4783 - Incorporate runway usage from departed or landed flights into SurfaceSlotNetwork CLOSED	D
	The Surface SM Subsystem shall set the APREQ CTOT window to [-2 min, 1 min] within the APREQ Scheduled Release Time for a controlled flight.	Tactical Scheduling Service	4.2	+ ATDI-4436 - Set APREQ CTOT window to - 2min +1min CLOSED	D, I
	The Surface SM Subsystem shall set the EDCT CTOT window to [-5 min, 5 min] within the EDCT Scheduled Release Time for a controlled flight.	Tactical Scheduling Service	4.2	🔴 ATDI-4656 - EDCT Apreq flight without Apreq time should be treated as controlled flight in delay distribution service CLOSED	T

Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	The Surface SM Subsystem shall ensure that flights constrained by APREQ TMI meet their APREQ times regardless of their EDCT status.	Tactical Scheduling Service	4.0	 ATDI-4248 - TMAT and TOBT should not change from APREQ flight if EDCT value is added or modified CLOSED	T
	The Surface SM Subsystem shall set default categorization of aircraft weight class to RECAT.	Tactical Scheduling Service	4.4	 ATDI-5188 - Default gate weight class set to RECAT CLOSED	D




4 DASH User Interface & Capabilities

Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	The DASH shall indicate the airport from where the user submits their feedback.	UI: Feedback Page User Feedback Service	4.0	 ATDI-4229 - Setup DFW Feedback Form CLOSED	D
	The DASH shall display connection status between the ATD-2 and the AEFS	UI: DASH system monitor DASH interface with AEFS Integration Service	4.0	 ATDI-4032 - DASH: Add status monitor for AEFS-ATD2 connection CLOSED	D
	The DASH shall enable the following capabilities: 1. Quicklook functionalities 2. Feedback functionalities	UI: Quicklook, Feedback page Quicklook, User Feedback Service	4.0	 ATDI-4224 - DASH for DFW - QuickLook CLOSED	D
	The DASH shall display active and past ramp closure status: 1. Start time 2. End time after ramp is reopened	UI: DASH quicklook DASH interface with RTC	4.1	 ATDI-4352 - Add ramp closures to DASH CLOSED	D
	The DASH shall display active and future Ground Delay Program status: 1. Destination 2. Start Time 3. End time 4. Average Delay 5. Max Delay	UI: DASH quicklook DASH interface with TMI service	4.1	 ATDI-4133 - Display GDP's in restriction list CLOSED	

5 Flight Data Ingestion, Processing, & Storage

Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	The ATD-2 system shall track multiple pre-departure flight plans for a flight.	Flight Data Processing Service	4.0	ATDI-4116 - Track multiple flight plans in FMC and Fuser CLOSED	D
	The ATD-2 system shall update to the best current available flight plan in the event that a flight's flight plan is canceled.	Flight Data Processing Service	4.0	ATDI-4116 - Track multiple flight plans in FMC and Fuser CLOSED	D
	<p>The ATD-2 system shall retrieve and process Ground Delay Programs information from the TFMS SWIM feed:</p> <ol style="list-style-type: none"> 1. Start Time 2. End Time 3. Affected US flights 4. Impacting Condition/Reason 5. Delay Assign To 6. Delay Average 7. Delay Limit 8. Max Delay 	Flight Data Processing Service	4.1	ATDI-4311 - Parse GDP data from TFM CLOSED ATDI-4312 - Integrate GDP data into TMI Service CLOSED ATDI-5239 - Create TfmMitTransformFactory in TmiService CLOSED ATDI-5236 - Refactor TmiService to return a list of restrictions when transforming TFM data CLOSED	D, T
	The ATD-2 system shall store Ground Delay Programs information retrieved and processed from the TFMS SWIM feed.	Flight Data Processing Service	4.1	ATDI-4311 - Parse GDP data from TFM CLOSED ATDI-4312 - Integrate GDP data into TMI Service CLOSED	T
	The ATD-2 system shall process cancelled APREQ time from the TBFM SWIM feed.	Flight Data Processing Service	4.2	ATDI-4165 - Handle canceled release times from TBFM SWIM CLOSED	










Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	The ATD-2 system shall receive and process sensitive flight information defined by FAA standards and regulations (aka SFD identification and protection process).	Flight Data Processing Service	4.3	+ ATDI-4885 - Add sensitive data detection logic to Fuser CLOSED	I
	The ATD-2 system shall hide the following flight information from non-FAA users: 1. Sensitive flights 2. Block at industry	Flight Data Processing Service	4.2.3 4.7	+ ATDI-4806 - Setup sensitive data filtering on all systems CLOSED + ATDI-4864 - Add CLT <i>rungui.RampManager</i> CLOSED + ATDI-5321 - Add <i>BlockAtIndustry</i> tracking to the Fuser CLOSED	D, I
	The ATD-2 system shall allow for the option to modify non-FAA users' visibility to sensitive flights: 1. White list: flights categorized as sensitive but still visible to non-FAA users 2. Black list: flights categorized as sensitive and not visible to non-FAA users	Flight Data Processing Service	4.2.3	+ ATDI-4874 - Configurable whitelist and blacklist for sensitive data CLOSED	T
	The ATD-2 system shall mediate multiple CID values assigned to flights by multiple ERAM facilities and provides one current CID per ARTCC for flights.	Flight Data Processing Service	4.3	+ ATDI-4897 - Fusion of multiple CIDs CLOSED	I
	The ATD-2 system shall determine whether a flight is at the arrival or destination airport and set its Operating Airport Value accordingly. The Operating Airport Value is used by: 1. Gate Conflict detection 2. Map Display logic	Flight Data Processing Service	4.3	+ ATDI-4613 - Define model updater to set the operating airport value CLOSED	I




Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
	The ATD-2 system shall store data for N days. (N = 6)	Flight Data Processing Service	4.6	 ATDI-5347 - Fuser data capture dropping really old tables CLOSED	I
	The ATD-2 system shall prioritize data sources for Airline Parking Gate in the following order: 1. TFM_TFDM (highest precedence) 2. AIRLINE_FLIGHTHUB 3. AIRLINE_FLIGHTSTATUS	Flight Data Processing Service	4.8	 ATDI-5434 - Switch Fuser mediation to prefer TFM over FlightHub CLOSED	T
	The ATD-2 system shall prioritize data sources for Earliest Off Block Time in the following order: 1. TFM_TFDM (highest precedence) 2. AIRLINE	Flight Data Processing Service	4.8	 ATDI-5434 - Switch Fuser mediation to prefer TFM over FlightHub CLOSED	T

6 TTP

Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
DFW, DAL	The ATD-2 shall provide TTP services for airports that are ATD-2 participants		4.2 5.2	ATDI-4513 - Configure TTP for DFW CLOSED ATDI-5398 - Filter D10 small airports from TTP CLOSED	
	The TTP shall publish airport codes using ICAO airport codes.		4.1	ATDI-4242 - Use ICAO airport in TTP CLOSED	I
	The TTP shall publish information for a flight only after it receives the flight's data from a SWIM source other than the Airline (aka Flight Hub).		4.1	ATDI-4323 - Filter TTP Flight Data to non FlightHub sources CLOSED	I
	The TTP shall remove CDM data fields from the TTP feed when sent to non-CDM participants: 1. ActualTakeOffTime 2. ActualLandingTime 3. ActualOffBlockTime 4. ActualInBlockTime 5. EarliestOffBlockTime 6. DepartureStandDesignator 7. ArrivalStandDesignator 8. AircraftRegistrationMark		4.7 5.2.1	ATDI-5301 - TTP CDM data filtering CLOSED	I
	The TTP shall publish the SMP data feed.		5.3 4.7	ATDI-3962 - Develop TTP SMP Schema CLOSED	T

7 AEFS Integration

Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
CLT	The ATD-2 system shall monitor connection between the AEFS and ATD-2.	AEFS Integration Service	4.0	 ATDI-4237 - Add Heartbeat to AefsProcessor to monitor AEFS connection CLOSED	D
CLT	The ATD-2 system shall send updated times to the AEFS in units which match those of the AEFS.	AEFS Integration Service	4.0	 ATDI-4191 - AefsFuserBridge should send times to AEFS only when different in the unit of minute and above CLOSED	I
CLT	The ATD-2 system shall send ETD updates to the AEFS if the ETD message time difference is greater than N minutes (N = 2).	AEFS Integration Service	4.3	 ATDI-4648 - AEFS message throttling CLOSED	D
CLT	The ATD-2 system shall provide indication for a flight having its flight strip removed by the AEFS.	AEFS Integration Service	4.0	 ATDI-4166 - Store AEFS RS message into the database and reflect on Fuser CLOSED	D
CLT	The ATD-2 system shall give the AEFS precedence over the ATD-2 with respect to changing a departure flight's runway due to Operational Necessity.	AEFS Integration Service	4.1	 ATDI-4405 - AEFS unsets RTC user runway and OpNec CLOSED	T
CLT	The ATD-2 system shall determine if an arrival flight currently exists in AEFS and request the AEFS to create an arrival flight strip in AEFS if: 1. it did not already exist 2. AND the arrival flight's state is ON_FINAL 3. AND the arrival flight is N nm distance from the runway.	AEFS Integration Service	4.3	 ATDI-4915 - Create AefsExtension with CID when adding an arrival for the first time if it doesn't exist CLOSED  ATDI-4514 - Send arrival updates to AEFS CLOSED  ATDI-4339 - Add Aefs Arrival List Messaging CLOSED	D
CLT	The ATD-2 system shall send request to the AEFS to remove the arrival flight strip from the AEFS when it enters the ramp area/NMA.	AEFS Integration Service	4.3	 ATDI-4514 - Send arrival updates to AEFS CLOSED	D

Airport	Functional Description	Functional Components	Release	Trace (JIRA)	Verification Methods
				 ATDI-4339 - Add AeFs Arrival List Messaging CLOSED	
CLT	The ATD-2 system shall use the CID for a flight that matches that of AEFS.	AEFS Integration Service	4.3	 ATDI-4899 - Need to send and use consistent CID when sending data to AEFS CLOSED	D
CLT	The ATD-2 system shall consistently use only one CID for a flight when sending data to AEFS.	AEFS Integration Service	4.3	 ATDI-4899 - Need to send and use consistent CID when sending data to AEFS CLOSED	D